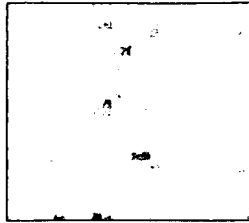


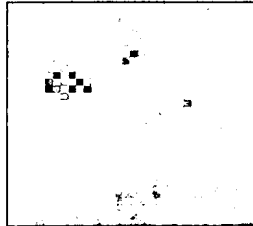
(1) electroplated Cu/
sputtered Cu/
sputtered Ru/
SiO₂ insulator



(5) electroplated Cu/
sputtered Cu/
sputtered Ru/
Si substrate



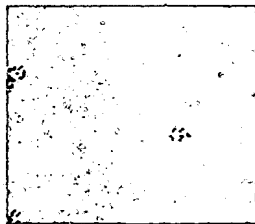
(2) electroplated Cu/
sputtered Ru/
SiO₂ insulator



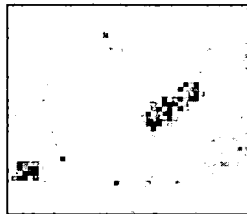
(6) electroplated Cu/
sputtered Ru/
Si substrate

The surface roughness increases in
the following order:

(1)<(2)<(3)<(5)<(6)<(7)<(4)<(8)



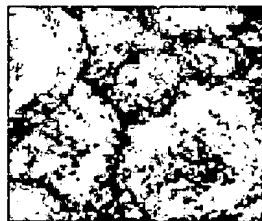
(3) electroplated Cu/
sputtered Cu/
electroplated Ru/
SiO₂ insulator



(7) electroplated Cu/
sputtered Cu/
electroplated Ru/
Si substrate



(4) electroplated Cu/
electroplated Ru/
SiO₂ insulator



(8) electroplated Cu/
electroplated Ru/
Si substrate

SKETCH